Claim 8 recites a damper having a hub, an inertia mass body, a polymer elastic body such a rubber press-fitted between the hub and the inertia mass body from an axis direction thereof, wherein said polymer elastic body is a vulcanized and molded rubber elastic body; and an organosilane as a non-slip agent is provided at least one of between said hub formed by a metal member and said polymer elastic body and between said inertia mass body formed by a metal member and said polymer elastic body; wherein surface roughness in at least one of a metal surface adhering to the polymer elastic body in said hub and a metal surface adhering to the polymer elastic body in said inertia mass body is within a range of 5 to 50 μmRz (JIS B0601).

Thus, in the present invention, the fastening between the hub and the inertia mass body is achieved by both a frictional force of the polymer elastic body and a physical fastening mechanism of the organosilane (lines 24 of page 4 to line 6 of page 7). Furthermore, since the organosilane is interposed between the polymer elastic body and the respective metal surfaces (lines 11-26 of page 7), the slipping torque is highly increased (lines 15-21 of page 4).

The Watanabe reference discloses a dynamic damper comprising a mass body, a rubbery elastic body wherein the mass body and the rubbery elastic body are connected to each other by means of a silane adhesive or a heat resistant phenol resin adhesive. The Examiner recognizes in the Office Action dated November 4, 2003, page 2, that the Watanabe reference fails to disclose or teach a surface roughness. Applicants agree with the Examiner's assessment. Another difference between the cited reference and the present invention is that an object of the present invention is to increase highly slipping torque. In contrast, the object of the Watanabe disclosure is to obtain a dynamic damper with high heat resistance and excellent durability and excellent vibration absorbing performance over a long period of time. Thus, the object and intent of the present invention is different from that of the Watanabe reference. Therefore, one of ordinary skill in the art would not necessarily look to Watanabe to achieve the object of the present invention. Additionally, the present invention can use the organosilane liquid as not only a non-slip agent but also as a press-fitting liquid for press-fitting the polymer elastic body to the gap between the hub and the inertia mass body (line 4 of page 4 to line 3 of page 5). In contrast, the Watanabe reference uses the silane adhesive only as adhesive for connecting the rubbery elastic body and the mass body. Therefore, in addition to not teaching a surface roughness, the Watanabe reference also does not teach other aspects of claim 8 of the present invention.

Since the Watanabe reference does not teach or suggest what claim 8 specifically recites, the Watanabe reference does not render claim 8 of the present invention obvious. Therefore, rejection of claim 8 under 35 U.S.C. 103 should be withdrawn and claim 8 passed to issue.

The Hamaekers reference does not add to the disclosure of the Watanabe reference. Hamaekers discloses an annular vibration damping machine element comprising at least two metal machine elements, a viscoelastic rubber layer separating the two metal machine elements and joined to at least one machine element, and separately produced extension piece projecting from a machine element and connected to the viscoelastic rubber layer (Abstract). The Examiner points to column 2, line 61 to column 3, line 3 for the teaching of optimum surface roughness for rendering claim 8 obvious in combination with the Watanabe reference. However, the teachings of the Hamaekers reference are quite different from claim 8 of the present invention for a number of reasons. First, the present invention recites use of the organosilane as a non-slip agent. In contrast, the Hamaekers reference does not teach or even remotely suggests use of an organosilane as a non-slip agent. Therefore, the Hamaekers reference cannot have an effect equivalent to the effect obtained in the present invention with the use of the organosilane (lines 11-26 of page 7). Secondly, in the Hamaekers reference, the metal machine element and the extension piece are joined to each other. Thus, the Hamaekers reference discloses that the metal surfaces are welded or fitted and fastened to each other and, in the case of the fitting, the respective metal abutting surface are plastic formed to obtain fastening power. In contrast, the present invention has the organosilane as a non-slip agent so that when the polymer elastic body is press-fitted, the proper wide organosilane is left between the hub and the polymer elastic body and/or between the inertia mass body and the polymer elastic body to obtain sufficient physical fastening power between the hub and the inertia mass body. Thirdly, the description "a suitable surface roughness of the mutually facing surfaces of machine element and extension" (Hamaekers, column 2, lines 62-63) is directed to the surface roughness suitable at the time when the metal machine element and the extension piece are joined, i.e., when the metal surfaces are joined together. In contrast, the subject matter of the present invention is directed to the surface roughness suitable at the time when the polymer elastic body is not joined but press-fitted between the hub and the inertia mass body, i.e., when the polymer elastic body is press-fitted between the metal surfaces. Therefore, the surface roughness suitable at the time when the polymer elastic body is press-fitted between metal surfaces is not taught or suggested by

the Hamaekers reference. Additionally, in the present invention, the surface roughness in the metal surface adhering to the polymer elastic body in the hub and metal surface adhering to the polymer elastic body in the inertia mass body is recited to be within a range of 5 to 50 μmRz. The claimed range is set to be between 5 to 50 μmRz because when the metal surface is rough, the polymer elastic body cannot follow the rough metal surface and a non-uniformity occurs in the thickness of the organosilane interposed between the polymer elastic body and the hub or inertia mass body. Therefore, the optimal fastening power by organosilane cannot be achieved. Accordingly, when the surface roughness of the metal surface is within the range of 5 to 50 μmRz, the most suitable fastening power by the organosilane can be achieved. In contrast, since the Hamaekers reference does not teach organosilane as a non-slip agent, the reference cannot anticipate a surface roughness of 5 to 50 μmRz as recited in claim 8 of the present invention. Therefore, the Hamaekers reference does not add to the teaching of Watanabe to render claim 8 of the present invention obvious since the Hamaekers reference does not teach or even suggest what claim 8 of the present invention recites.

For a rejection under 35 U.S.C.103 to be valid, a motivation or suggestion to combine two or more references must reside in either of the cited references. Such a suggestion or motivation to combine is not found in either cited reference. However, even if the references were properly combined, the combination still does not teach what amended claim 8 of the present invention recites. Since the Hamaekers reference fails to disclose the organosilane as a non-slip agent, as recited in claim 8 of the present invention, it also would not be obvious to provide the surface roughness of the metal surfaces of the hub and/or the inertia mass body to be within the range of 5 to 50 μmRz in order to achieve the optimal fastening power of the organosilane to the metal surface. Furthermore, the Hamaekers reference discloses the surface roughness suitable only for joining together the metal surfaces. The Hamaekers reference does not teach or suggest any surface roughness suitable for press-fitting the polymer elastic body to the gap between the metallic surface as specifically recited in claim 8 of the present invention. Therefore, even the combination of the two references does not teach or even suggest surface roughness in the range of 5 to 50 μmRz to be used with the organosilane as a non-slip agent to achieve optimal fastening power of the organosilane to the metal surface as specifically recited in claim 8 of the present invention.

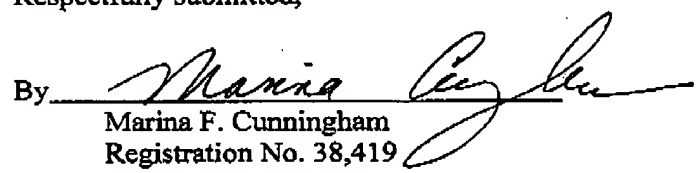
Claim 9 depends from claim 8 and recites additional subject matter. Therefore, for at least the reasons discussed above, neither Watanabe, Hamaekers nor combination thereof renders claim 9 of the present invention obvious.

Therefore, rejection of claims 8 and 9 under 35 U.S.C. 103 should be withdrawn and claims 8 and 9 passed to issue.

As Applicants have addressed all objections and rejections raised by the Examiner, it is respectfully requested that the Examiner reconsider and withdraw the stated rejection, allow claims 8 and 9, and pass the present application on to issuance.

Applicants do not believe that any fees or charges are due. However, in the event fees or charges are due, please charge them to Deposit Account 13-0235.

Respectfully submitted,

By 

Marina F. Cunningham
Registration No. 38,419
Attorney for Applicant

McCormick, Paulding & Huber LLP
CityPlace II,185 Asylum Street
Hartford, CT 06103-3402
(860) 549-5290